

Claims

1. A linear actuator for control of a valve, including a motor portion (2) and an actuator device portion (3) comprising a rotatable member (9) provided with a threaded portion (10) matching the threaded portion (12) of a linear displacement threaded bolt (11), the rotatable member being supported by bearings (15, 16) and drivable in rotation by the motor portion, characterised in that the linear actuator further includes an axially compressible coil spring (19) mounted in a compressed state between a valve head (37) arranged at an end of the threaded bolt (11) and a casing of the actuator, the threaded portion (10) of the threaded bolt comprising at least one thread arranged at an angle α relative to a plane orthogonal to the axial direction of motion of the threaded bolt, where the characteristic $\tan(\alpha)$ is greater than the friction coefficient μ between the threaded bolt and the rotatable member so that the threaded bolt is reversible.
- 15 2. An actuator according to claim 1, characterised in that the threaded portion of the threaded bolt includes at least two threads.
- 20 3. An actuator according to one of the preceding claims, characterised in that the coil spring is mounted outside the actuator and around a cover portion (13) which forms part of the casing of the actuator.
- 25 4. An actuator according to one of the preceding claims, characterised in that it further includes a partition wall (4) separating the motor portion from the actuator device portion and having a portion extending in an air gap (8) between the motor portion and the rotatable member of the actuator portion, the partition wall being also a structural component enabling assembly and position of the motor portion and the actuator portion.
- 30 5. An actuator according to the previous claim, characterised in that the casing of the actuator includes a cover (13) comprising an actuator bearing portion, wherein the rotatable member, bearings and cover (13) are insertable axially into a cavity

formed by the partition wall (4), the cover (13) being force-fitted into a matching cavity of the partition wall (4).

6. An actuator according to the previous claim, characterised in that the actuator includes a body portion (14) provided at an end of the rotatable member distal from the cover (13) and comprising a bearing portion (16), wherein this body portion (14) is axially insertable into the partition wall (4) to abut axially against the partition wall, via elastic means (26).